PERSONAL INFORMATION

Maria COVEI

29 Eroilor Bd., Brasov, 500036, Romania

maria.covei@unitbv.ro

https://orcid.org/my-orcid?orcid=0000-0003-1253-0597

Sex F | Date of birth | Nationality Romanian

WORK EXPERIENCE

October 2016 - present

Lecturer

Transilvania University of Brasov, 29 Eroilor Bd., 500036, Brasov, Romania, www.unitbv.ro

Faculty of Product Design and Environment

- Teaching activities for BSc and MSc programs for the following subjects: Hydrogen Technology (lecture and laboratory), General Chemistry (lecture and laboratory), Inorganic Chemistry (laboratory), Environmental Chemistry (lecture and laboratory), Instrumental Analysis (lecture and laboratory), Technologies and Equipment for Water Treatment and Purification I (lecture and laboratory), Sustainable Water Resource Management (lecture, laboratory, and project), Elements of Electrochemistry and Corrosion (laboratory).

February 2016 – July 2016

Associate Lecturer

Transilvania University of Brasov, 29 Eroilor Bd., 500036, Brasov, Romania

Faculty of Product Design and Environment

Teaching activities for BSc and MSc degree programs for the following subjects: Inorganic Chemistry (laboratory), Colloid Chemistry (laboratory).

November 2015 – December 2015

Research Assistant

“Ilie Murgulescu” Institute of Physical Chemistry, 202 Splaiul Independentei., 060021, Bucharest, Romania, http://www.icf.ro/

Research in the field of thin oxide films.

EDUCATION AND TRAINING

]

May 2018 – October 2020

Postdoc

Transilvania University of Brasov, 29 Eroilor Bd., 500036, Brasov, Romania

- Advanced research on thin oxide films with controlled optical and photocatalytical properties (title: Novel multifunctional composite thin films with simultaneous IR-shielding, self-cleaning and anti-reflection properties for photovoltaics glazing).

November 2012 – December 2020

PhD

“Ilie Murgulescu” Institute of Physical Chemistry, 202 Spl. Independentei., 060021, Bucharest, Romania

- Research on thin oxide films with controlled opto-electrical properties (title: TCO-based multifunctional structures prepared by physical and chemical methods for optoelectronic applications).

October 2010 – July 2012

MSc

Transilvania University of Brasov, 29 Eroilor Bd., 500036, Brasov, Romania

- Industrial engineering (Product Design for sustainable development and environmental protection)

September 2009 – May 2010

ERASMUS exchange

Heriot-Watt University, Edinburgh EH14 4AS, United Kingdom

- MSc program: Chemical Engineering

October 2006 – July 2010

BSc

Transilvania University of Brasov, 29 Eroilor Bd., 500036, Brasov, Romania

- Environmental engineering (Environmental engineering and protection in industry)

PERSONAL SKILLS

Mother tongue(s): Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
	Cambridge Certificate (Advanced) 2005.				
German	A2	A2	A2	A2	A2
	-				

Communication skills

- good communication skills gained through teaching experience and participation in the research teams of national and international grants I was involved in.

Organisational / managerial skills

- Good management skills developed through participating in a series of training courses, as a member of national and international grant teams, as a member of organizing committees for international conferences and workshops, and as a supervisor of BSc theses.

Job-related skills

- I possess the necessary skills for research activities in the field of functional materials: structural characterization (XRD), morphological characterization (AFM, SEM); chemical composition analysis (EDX), contact angle measurements; optical characterization (Spectroellipsometry, UV-Vis spectroscopy, FTIR spectroscopy), electrical characterization (Hall effect measurements, current-voltage).

ADDITIONAL INFORMATION

Publications (selection of 10 most relevant)

- S. Simeonov, A. Szekeres**, M. Covei**, H. Stroescu, M. Nicolescu, P. Chesler, C. Hornoiu, M. Gartner, *Sol-Gel Multilayered Niobium (Vanadium)-Doped TiO_2 for CO Sensing and Photocatalytic Degradation of Methylene Blue*, Materials 17 (2024) 1923, https://doi.org/10.3390/ma17081923.
- **M. Covei**, C. Bogatu, S. Gheorghita, A. Duta, H. Stroescu, M. Nicolescu, J.M. Calderon-Moreno, I. Atkinson, V. Bratan, M. Gartner, *Influence of the Deposition Parameters on the Properties of TiO_2 Thin Films on Spherical Substrates*, Materials 16 (2023) 4899 https://doi.org/10.3390/ma16144899
- C. Bogatu, **M. Covei**, M.I. Polo-Lopez, A. Duta, S. Malato, *Novel ZnO photocatalysts for pollutants' abatement under solar radiation at pilot plant scale*, Catalysis Today 413 (2023) 113947 https://doi.org/10.1016/j.cattod.2022.11.008
- **M. Covei**, I. Tismanar, T. Cunha Diamantino, *The Stability of TiO_2-rGO Self-Cleaning Photocatalytic Coatings for Outdoor Applications*, 18th International Conference on Chemistry and the Environment, 2023, 226.
- **M. Covei**, D. Perniu, C. Bogatu, A. Duta, I. Visa, *Photocatalytic Composite Thin Films with Controlled Optical Properties Based on TiO_2, WO_3 and rGO*, Surfaces and Interfaces 31 (2022) 102075 https://doi.org/10.1016/j.surfin.2022.102075
- A. Duta, **M. Covei**, C. Bogatu, D. Perniu, *TiO_2-copper zinc tin sulfide (CZTS) photocatalytic thin films for up-scalable wastewater treatment*, Book chapter in Materials Science in Photocatalysis, Elsevier, 2021, 371-383 https://doi.org/10.1016/B978-0-12-821859-4.00029-5
- C. Bogatu, **M. Covei**, I. Tismanar, D. Perniu, A. Duta, *Composite nanostructures as potential materials for water and air cleaning with enhanced efficiency*, Book chapter in Advanced Nanostructures for Environmental Heallth, Elsevier, 2020, 431-463, https://doi.org/10.1016/B978-0-12-815882-1.00010-0.
- **M. Covei**, C. Bogatu, D. Perniu, I. Tismanar, A. Duta, *Comparative study on the photodegradation efficiency of organic pollutants using n-p multi-junction thin films*, Catal. Tod. 328 (2019) 57-64 https://doi.org/10.1016/j.cattod.2019.01.055.
- **M. Covei**, D. Perniu, C. Bogatu, A. Duta, *CZTS-TiO_2 thin film heterostructures for advanced photocatalytic wastewater treatment*, Catal. Tod., 321-322 (2019) 172-177 https://doi.org/10.1016/j.cattod.2017.12.003
- **M. Covei**, L. Predoana, P. Osiceanu, J.M. Calderon-Moreno, M. Anastasescu, S. Preda, M.Nicolescu, M. Gartner, M. Zaharescu, *Niobium/Vanadium doped TiO_2 multilayered sol-gel films: Structure, surface chemistry and optical properties,* Ceramics International 42 (2016) 13805-13811 https://doi.org/10.1016/j.ceramint.2016.05.182

Projects

As Project Coordinator:

- **PN-III-P2-2.1-PED-2021-2928 (2022-2024)** *Continuous flow demonstrator and technology with VIS/solar-active photocatalyst on spherical bead substrates for advanced wastewater treatment (PhotoCatBead) – national grant.*
- **SFERA III projects, SURPF 2101300016 (2021-2023)** *Assessing the stability of VIS- or solar-active self-cleaning photocatalytic, composite coatings for outdoor applications – European grant.*
- **PN-III-P1-1.1-PD-2016-0289 (2018-2020)** *Novel multifunctional composite thin films with simultaneous IR-shielding, self-cleaning and anti-reflection properties for photovoltaics glazing (IRCLAR) – PostDoc grant.*

As Team member (selection):

- **Horizon - 258967-101136775 (2024-2027)** *Supporting European R&I through stakeholder collaboration and institutional reform (INITIATE)*
- **Erasmus+ - 2023-1-RO01-KA220-HED-000166242 (2023-2026)** *Education for Plastic in a Circular and Climate Neutral Economy - Preventing Waste Ending Up into the Environment (Edu4Plastics)*
- **UEFSCDI - PN-III-P1-1.2-PCCDI-2017-0619 (2018-2020)** *Nanostructured carbon-based materials for advanced industrial applications (Nanocarbon+)*
- **UEFSCDI - PN-III-P2-2.1-PED-2016-0514 (2017-2018)** *Continuous flow advanced wastewater treatment demonstration technology based on thin film photocatalysis and adsorption reactor (PhotoCatFlow)*
- **M-ERA. NET - 2248 (2016-2018)** *Sustainable autonomous system for nitrites/nitrates and heavy metals monitoring of natural water sources (WaterSafe)*

Date: 25.04.2025
Signature: Lect. Dr. Eng. Maria Covei